

IN THE UNITED STATES DISTRICT COURT FOR THE  
SOUTHERN DISTRICT OF NEW YORK

MIDWAY MANUFACTURING COMPANY:

Deposition of

vs.

:

William L. Harrison

THE MAGNAVOX COMPANY

:

Fifth Day

and

:

74 Civ 1657 CBM

SANDERS ASSOCIATES, INC.

:

James T. Williams  
7 West Washington Street,  
Chicago, Illinois.

TM 61030

IN THE UNITED STATES DISTRICT COURT FOR THE  
NORTHERN DISTRICT OF ILLINOIS, EASTERN DIVISION

THE MAGNAVOX COMPANY, et al :

Consolidated Actions

vs.

:

74 C 1030

BALLY MANUFACTURING  
CORPORATION, et al

:

74 C 2510

75 C 3153

75 C 3933

:

HARRISON

Continued deposition taken

pursuant to subpoena and notice at the Sanders Associates,  
Inc.; Headquarters, Spit Brook Road; Nashua, New Hampshire;  
Thursday, March 25, 1976; commencing at 9:30 in the  
forenoon.

FILED

ERNEST W. NOLIN & ASSOCIATES

General Stenographic Reporters

369 ELGIN AVE., MANCHESTER, N. H. 03104

TELEPHONE: 623-6906

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you now proceed with PRESENT: was to that question?

A. Yes, sir. Exhibit 23 For Midway Manufacturing Company, Bally Manufacturing Corporation and Empire: and

gate circuit for cost: Donald L. Welsh, Esq., 135 South LaSalle Street, Chicago, Illinois.

(Discussion off the record.)

For Sanders Associates, Inc., and Magnavox Company:

Ind. witness: Exhibit 23-100

James T. Williams, Esq.,

indicates that I attended 77 West Washington Street, Chicago, Illinois.

but it is not clear to me at this time how I did

For Sanders Associates:

that. Exhibit 23-101 indicates to me that I

Richard I. Seligman, Esq.,

attempted to do more Daniel Webster Highway, South, Nashua, New Hampshire.

to reduce component count and cost. Exhibit 23-102

Stenotype Reporter:

indicates to me that an attempt was made to cause

Ronald J. Hayward

the target spot to move upon hit in the target-

shooting game WILLIAM L. HARRISON indicates to me

called as a witness, having been previously sworn, was

further examined and continued his testimony as follows:

hit and I modified the circuit to improve the  
(Interrogatories by Mr. Welsh.)

disappearance.

Q. During the period from October 10, 1967, until

Q. That dot disappearance, did you see in connection  
October 23 when you first began to aid Mr. Rusch,  
with the target game?

would you tell us what you did, if anything, on

A. I believe it would have been any game that used  
the TV game project? And I believe you had gotten  
the SOA to cause the dot to disappear.

through Exhibit 23-99 or at least up to it. Would

you now proceed with your answer to that question?

A. Yes, sir. Exhibit 23-99 indicates to me that spots

I attempted to simplify the chroma oscillator and gate circuits for cost reduction purposes. could be

obtained so I modified the circuit to yield a

(Discussion off the record.)

constant video level from one or multiple signals

that were displayed. THE WITNESS: Exhibit 23-1003-10

indicates that I attempted to make multiple dots, but

but it is not clear to me at this time how I did

that. Exhibit 23-101 indicates to me that I

attempted to do more simplification of circuits in

to reduce component count and cost. Exhibit 23-102

indicates to me that an attempt was made to cause

the target spot to move upon hit in the target-

shooting game. Exhibit 23-103 indicates to me

that the crowbar circuit did not completely the

eliminate the target spot from the screen on a

hit and I modified the circuit to improve the

disappearance. I notice

That dot disappearance, then, was in connection

with the target game? period from October 23, 1967,

A. I believe it would have been any game that used

the SCR to cause the dot to disappear. Exhibit 25 begins

Exhibit 23-104 indicates to me that the method of summing spot signals were such that when two spots were coincident or any of the video signals were coincident, a difference in light level would be obtained so I modified the circuit to yield a constant video level from one or multiple signals that were displayed at the same time. Exhibit 23-105 indicates to me that an attempt to produce a simple two-spot baseball game was made. Did you have

Q. How was that game intended to be played?

A. The batter has control of the vertical positioning of the bat to intercept the ball when it is released by the pitcher; and if coincidence is detected, you score a hit by making the ball disappear or, a strike would be indicated with no coincidence and the ball would pass to the left side of the screen.

Q. I believe Exhibit 23-106 was where you indicated that you had begun to assist Mr. Rusch. I notice that the pages of Exhibit 23 following that extending up to 23-163 cover a period from October 23, 1967, until December 22, 1967. Then commencing on December 27 of '67, your entries in Exhibit 25 begin.



Did your resumption of making entries in Exhibit 25 on December 27 mean that you began doing something other than just aiding Mr. Rusch? 23-131.

MR. WILLIAMS: If you recall, Mr. Harrison. I think I should note for the record that at least some of the documents bearing numbers between 23-106 and 23-163 do not appear to have any dates on them at all. (whereupon, the previous question was read back)

MR. WELSH: Did you have any specific ones in mind?

MR. WILLIAMS: At least my copy of 23-118 does not appear to have a date on it. that time to try to reduce the complexity of

Q. Does 23-118 in the actual Exhibit 23 have a date, Mr. Harrison?

A. Which one is that? reducing the complexity undertaken

Q. 23-118. by yourself?

A. I do not see a date, sir.

Q. How about 23-119? belief in that regard?

A. I do not see a date, sir. reduce the complexity?

Q. And 23-120?

A. I do not see a date, sir. Mr. Rusch was not attempting to

do something along the MR. WELSH: Did you notice any

Q. others, Mr. Williams? You did commence making entries in a bound notebook, MR. WILLIAMS: Not so far, but I have not completed my review. 23-131.

something other than THE WITNESS: I do not see a

A. date on Exhibit 23-131. May I have the question

Q. again? Have any belief in that regard?

A. I do not have a belief at this time.

(Whereupon, the previous

Q. Why did you commence making entries in the notebook question was read back as distinguished from on separate sheets such as by the reporter.)

A. 23-106 to 23-130?

A. I do not recall, sir. THE WITNESS: Exhibit 25,

Q. page 1, indicates to me that I took on the task at that time to try to reduce the complexity of the circuitry that I had been working on with to

Mr. Rusch. as calling for an assumption. It seems

Q. Was that work of reducing the complexity undertaken by you by yourself? THE WITNESS: I do not recall

A. I do not recall.

Q. Do you have any belief in that regard? in pages 1 to

A. That I alone tried to reduce the complexity?

Q. Yes. approximately one month, from December 27, 1967,

A. I do not know that Mr. Rusch was not attempting to do something along these lines also. is nearly -

Q . Does the fact that you did commence making entries in a bound notebook, Exhibit 25, as of that time when you took that task indicate that you were doing something other than just aiding Mr. Rusch? until

A. I do not recall. . . . . over a year

Q. Do you have any belief in that regard? . . . . .

A. I do not have a belief at this time. . . . .

Q. Why did you commence making entries in the notebook as distinguished from on separate sheets such as

A. 23-106 to 23-163? . . . . . sir.

A. I do not recall, sir. . . . . you did not recall . . . . .

Q. Do you have any idea? . . . . . Any assumption in that regard? . . . . . distinguished from entries on . . . . .

MR. WILLIAMS: I object to the question as calling for an assumption. It seems to request pure speculation from the witness. I leave

THE WITNESS: I do not recall why. . . . . that helps you recall in

Q. Now, I note further that the entries on pages 1 to 17 of Exhibit 25 extend only for a period of first approximately one month, from December 27, 1967, til January 23, 1968, and then the next entry on page 18 is on November 4, 1968, which is nearly -

well, it is over nine months later. I also note that with the Exhibits 23-186 through 23-193, which are in January of 1968 - also Exhibit 194 - that there are no subsequent entries in Exhibit 23 until August of 1969, which is, of course, over a year later. Do these facts regarding the periods of time of the entries assist you in any way in pages determining or recalling why you had returned to the bound notebook method of keeping your notes?

A. I don't understand the question, sir.

Q. Well, to review, you stated you did not recall has why you began making entries in Exhibit 25, a bound notebook, as distinguished from entries on loose sheets such as in Exhibit 23. My question was whether the fact that the entries in the first seventeen pages cover only one short period of less than a month with the next following entry being nine months later, whether that helps you recall in any way why you began making entries in the bound notebook or does the subject matter of the first seventeen pages help you recall why you began the making entries in the notebook? mean by most

A. No, sir, it does not. value.

Q. Now, you reviewed the entries in Exhibit 23 from page 106 of October 23, 1967, to Exhibit 23-163, which is dated 12-22-67. Do the entries in those pages relate to work in which you aided Mr. Rusch?

MR. WILLIAMS: Well, I object to the question. It covers some fifty plus pages of documents.

MR. WELSH: He has already gone through each of them.

MR. WILLIAMS: I agree he has at least looked at them. I don't know what he had in mind when he looked at them. I think there may be a different response to that question depending on which particular document he is referring to. I think the question is vague and calls for multiple answers.

THE WITNESS: I believe that many of them do, but not necessarily all of them.

Q. Do most of them?

MR. WILLIAMS: I object to the question. I don't know what you mean by most of them, I think it is vague.

Q. And what is there about Exhibit 23-131 which makes you uncertain as to whether that involved work in which you were aiding Mr. Rusch? a fixed wall

A. I have no recollection as to what it means. screen?

Q. Do the entries on that page have any significance to you at all? period.

A. Not at this time, sir.

Q. The page is one of those which had been noted as being undated, I believe, is it not?

A. Yes, sir, it is.

Q. In connection with your work aiding Mr. Rusch, what did the term wall bounce mean?

Q. Did he make entries MR. WILLIAMS: If you recall, Mr. Harrison.

A. What is meant by in THE WITNESS: In this time period, sir? there.

Q. No, what did it mean at the time you were working with Mr. Rusch?

A. So in the time period we were covering?

Q. Yes, I am sorry. When you said this time period - yes, in the time period represented by your work on these notes, Exhibits 23-106 to 23-163.

A. As I recall, it meant to bounce a symbol off the

A. edges of the screen, top, bottom and both sides.

Q. Did Mr. Rusch ever discuss with you the possibility of a bounce of a ball image off of a fixed wall image as distinguished from the edge of the screen?

A. When you say did he ever - - -

Q. During the time period.

A. I do not recall.

Q. Do you have any belief as to whether he discussed

that with you?

A. No, sir, I do not.

Q. Did he ever show you entries in his notebook?

A. I am sure he did.

Q. Did he make entries in his notebook in your presence?

A. What is meant by in my presence?

Q. When you were there.

A. In the area?

Q. Yes.

A. Yes, I am sure he did.

Q. Did you see him make entries?

A. I do not recall.

Q. Did he refer to entries in his notebook in

A. discussing what work you might be doing to aid him?



A. I am sure he did, sir. wall bounce.

Q. Do you recall in your work with Mr. Rusch during this time period any reference to a game such as pool or billiards?

A. Yes, sir.

Q. What do you recall in that respect?

A. That we at least discussed it or attempted to build circuitry to try such a game.

Q. Did that circuitry include components for generating an image for the edge of the pool table or

billiards table?

A. I do not recall, sir.

Q. Did you actually construct circuits while you were working with Mr. Rusch during this time period to obtain what you were referring to as the wall bounce?

A. Yes, sir.

Q. Do your entries on Exhibits 23-151 and 152 relate to that work?

A. I believe they do, sir.

Q. Do these exhibits disclose some means for affecting what you referred to as wall bounce?

A. I didn't hear the question.

Q. What you referred to as wall-bounce. that, I meant

A. I didn't hear the first part of the question.

MR. WELSH: Could you read it?

(Whereupon, the previous

question was read back by the reporter.)

THE WITNESS: Yes, sir, it does.

Q. What is that means?

A. That upon the ball or symbol, the moved symbol reaching some position on the screen, a voltage is detected that causes a flipflop to change state which in turn via transistor switches, changes the direction of the integrator which controls the ball movement.

MR. WELSH: May I have the last part of that answer, please?

(Whereupon, the previous

answer was read back by the reporter.)

Upon reaching it would THE WITNESS: By that, I meant the direction of the integration. Are you calling

7 H/12/76 Q. The <sup>SIGN</sup> ~~sign~~? speculation as to how it might have been?

Q. A. Yes, I object to the question.

Q. From plus to minus or minus to plus? as to do

Q. A. Yes, sir.

Q. You stated that upon the ball or symbol reaching

Q. some position on the screen, could that position

Q. A. be varied? they are shown on both exhibits.

Q. A. Do you mean to set the limits of where the wall

Q. A. bounce takes place? the page. They connect between

Q. A. the resistor and the base of a transistor. Labeled

Q. Yes, Could it have been varied? other is to the

Q. A. Yes, I believe it could. of the page, connected

Q. So that you could actually instead of having the ball bounce off of the right edge of the screen,

Q. have it bounce from, say, a vertical line, say, 2 inches in from the right edge of the screen,

Q. A. is that correct??

Q. A. Yes, sir. a redraw of the other or something

Q. Was that change made by varying some resistor

Q. A. or how was it made? Or how could it have been made, that change in the position where the ball

Q. upon reaching it would change direction?

A. Yes, sir. MR. WILLIAMS: Are you calling

Q. for the speculation as to how it might have been?

If so, I object to the question.

Q. Well, what in the circuit made it possible to do

Q. that? Is the improvement that Exhibit 23-152 has over

A. The zener diode threshold devices.

Q. Are those shown on either of these exhibits?

A. Yes, sir, they are shown on both exhibits.

Q. Where are they located on Exhibit 151?

A. The right center of the page. They connect between the resistor and the base of a transistor. Labeled 1N753, that is one of them. The other is to the

A. left of that, almost center of the page, connected between two resistors and the base of another day transistor. circuitry to it, that it must have

Q. What is the relation of the circuit of the diagram of 152 to Exhibit 23-151? recall.

A. The relationship? It's out the zener diodes on

Q. Yes, is one a redraw of the other or something

A. of that nature? It'd be near the bottom of the

A. Exhibit 23-152, I believe, is an improvement. It is a redraw, but also an improvement. It's labeled

Q. Of Exhibit 151?

A. Yes, sir. Are some device such as a potentiometer

Q. It also has more values for the circuit elements, does it not, more identification? tion at which the

A. Yes, sir, it does. direction?

Q. What is the improvement that Exhibit 23-152 has over that of Exhibit 23-151? tion of the right edge of

A. I do not recall at this time what the improvement was. he ball changed direction?

Q. When you were describing the relationship of the circuitry of 152 or 151, I believe you made (Whereupon, the previous reference to an improvement, what improvement were you referring to? question was read back

A. Well, I think I made that statement, sir, because of the fact that I redrew it on the following day and I added circuitry to it, that it must have been for improvement purposes. Exactly what the improvement was, I do not recall.

Q. Now, could you point out the zener diodes on Exhibit 23-152?

A. One of them would be near the bottom of the diagram, a zener labeled 1N755 and the other is a little further to the top and to the right labeled

1N757.amp, the output of that op. amp.

Q. Now, is there some device such as a potentiometer, that or variable resistance for adjusting the thresholds of those diodes to change the position at which the ball image changed direction? necessarily shown on

A. No, sir, there is not, giving that voltage at the

Q. What determined the location of the right edge of the screen as the position where, upon reaching it, the ball changed direction? which determined

A. It need that read back. screen as the position where the ball changed direction was the output voltage of the integrator, is that correct? (Whereupon, the previous question was read back

A. The output voltage level, by the reporter.)

Q. The output voltage level of the integrator?

A. Yes, sir. THE WITNESS: The voltage

Q. out of the integrator. is level variable?

Q. And at what point did that voltage appear? or change

A. What? tion?

Q. Is there some point on the circuit where that

A. voltage appeared? by changing the value of the reference

A. On the diagram? agreed to previously.

Q. Yes. you ever do that in order to change the location

A. At the top right-hand side, it says three transistor

op. amp, the output of that op. amp.

Q. The section just to the right of that triangle that bears that designation?

A. That is correct, sir.

Q. Was there any provision not necessarily shown on this diagram for changing that voltage at the output of the integrator?

A. I don't understand the question, sir?

Q. Well, you stated that the means which determined the right edge of the screen as the position where the ball changed direction was the output voltage of the integrator, is that correct?

A. The output voltage level.

Q. The output voltage level of the integrator?

A. Yes, sir.

Q. Was that output voltage level variable?

A. At which point the ball would hit the wall or change direction?

Q. Yes.

A. It was variable by changing the value of the zeners that we had referred to previously.

Q. Did you ever do that in order to change the location of the position where the ball changed direction?



A. I do not recall.

Q. I hand you now Exhibit 19 which has been identified previously as one of the notebooks of Mr. Rusch-145 and refer you specifically to page 3 of that or a Exhibit 19 and ask you if you recall having seen either the diagram at the top or the diagram near the top to the right edge of that page?

A. I do not recall.

Q. I will ask you to refer to page 33 of that same exhibit - I am sorry, page 34 - and the diagram in the center of that page entitled pinball with score column; do you recall having seen that diagram?

A. By that, you mean the diagram in this book? indicates

Q. Yes, and that is what I meant previously with respect to the diagram on page 3. ball to be hit and hit the

A. I do not recall at this time.

Q. Does having seen these diagrams refresh your one recollection as to whether you and Mr. Rusch had bouncing of a ball image off of a fixed image on the screen rather than just the edge of the screen?

A. I do not recall, sir. of Exhibit 23, what coincided

Q. Do you have any belief as to whether you had such discussions with Mr. Rusch? ich has the statement,

A. Not at this time, sir.

Q. Did you do any further work on the wall bounce feature - strike that. Referring to Exhibit 23-145 and 146 which contained references to a pool or a billiards game, do you recall what was contemplated as to how that game or games would be played?

A. May I have the question back, please?

(Whereupon, the previous question was read back by the reporter.)

THE WITNESS: I do not recall at this time, sir; however, Exhibit 23-145 indicates to me that we were at least trying to take one of spot which would be the ball to be hit and hit the cueball and cause it to move.

Q. Were you concerned on those pages only with one ball hitting another?

A. I do not recall; however, that is all I can make of it at this time.

Q. Referring to page 138 of Exhibit 23, what coincidence or coincidence of what was being referred to at the bottom of that page which has the statement,

Q. "Disappearance on coincidence"? stated you there were

A. I do not recall, sir. age control of the delay times  
of delay multivibrator. MR. WELSH: This may be a good  
time to break for lunch. age control, did you at  
the time of that exhibit obtain such voltage  
control? (Whereupon, the luncheon

recess was taken.)

A. At the time of this Exhibit 23-128, I do not believe  
I did. MR. WILLIAMS: Mr. Welsh,

Q. before we resume I think Mr. Harrison had something

A. he wanted to say about this morning's testimony.

Q. When did that occur? MR. WELSH: All right.

A. I do not recall, sir. THE WITNESS: The testimony  
about having discussed bouncing off a fixed symbol.  
I believe I understood to be in the time frame of

Q. these pages that we had discussed earlier, on which

Q. Yes. based that answer?

A. Was that how the question was stated?

Q. I don't recall now. and there?

A. Well, at a later time I obviously did talk to him  
about hitting against fixed symbols.

Q. But you don't recall doing it during the time period  
of Exhibits 23-106 to 23-163?

A. I do not at this time.

Q. Regarding Exhibit 23-128, you stated you there were trying to get a voltage control of the delay times of delay multivibrators you had worked on previously rather than just a resistor control, did you at the time of that exhibit obtain such voltage control?

A. At the time of this Exhibit 23-128, I do not believe I did.

Q. Did you at some subsequent time?

A. Yes, sir, I am sure we did.

Q. When did that occur?

A. I do not recall, sir; however, it would have been prior to 10-24-68; and, to the best of my knowledge, after 1-23-68.

Q. Did you find something in your notebook on which you based that answer?

A. Yes, sir, Exhibit 25, page 18.

Q. And what did you find there?

A. I find a schematic diagram attached, Exhibit 23-18A.

Q. And what does 25-18A show?

A. It shows spot generators that were controlled by voltage controls.

Q. Using delay multivibrators?

A. Yes, sir.

Q. What was your reason for stating that you achieved such voltage control after January 23, 1968?

A. Because I have no record hereto indicate that I did actually construct such circuits. That I was involved - still involved - with some of Mr. Rusch's equipment.

Q. Was the manner in which you achieved the voltage control of delay multivibrators solely your idea?

A. As I recall, it was, sir.

Q. Was that idea, that circuitry, actually constructed?

MR. WILLIAMS: Which circuitry?

MR. WELSH: The circuitry that you were referring to in Exhibit 25-18A.

THE WITNESS: Exhibit 25, page 18, indicates to me that it was, sir.

Q. Do you recall a demonstration to RCA of the TV game apparatus in January of 1969?

A. I recall the demonstration; I do not recall the date.

Q. Did you have anything to do with constructing the apparatus used in that demonstration?

A. Yes, sir. now examine other models in the room and

Q. And what did you have to do with that construction?

A. I constructed all the equipment, sir.

Q. Did that apparatus incorporate your voltage control

of DMV's? bit 23-194 include your voltage control

A. Yes, sir, it did. vibrators for spot generation?

Q. I ask you to now examine the various models in this

Q. room and see if you can pick out the apparatus at  
that was used in the RCA demonstration? Is it not?

A. Exhibit 35, sir. you said it was between January 23

Q. Do you also recall an earlier demonstration to 8.

TelePrompter? Is it down a little closer, would it

A. Yes, sir.

Q. Do you recall when that occurred?

A. No, sir. on or before January 26, 1968?

Q. But it was earlier than the RCA demonstration?

Q. Do you recall that? Is in that regard?

A. Yes, sir, I believe it would be.

Q. Did you have anything to do with constructing the  
apparatus for the TelePrompter demonstration?

A. As I recall, I did. demonstrated to TelePrompter

Q. What did you have to do with that construction?

A. I constructed the total equipment, as I recall.

106  
Q. Would you now examine other models in the room and see if you can identify the apparatus that was used in the TelePrompter demonstration? it.

A. As best I recall, Exhibit 30. these diagrams show

Q. Does Exhibit 23-194 include your voltage control of the delay multivibrators for spot generation?

A. It does for spot No. 13 only. the apparatus?

Q. That then might fix the date when you arrived at the voltage--such voltage control, might it not?

A. I believe before you said it was between January 23 and October 24, the date of Exhibit 18, in 1968.

Q. This would pin it down a little closer, would it not?

A. the circuits constructed?

A. I believe it would, sir.

Q. Was it on or before January 26, 1968?

A. I do not recall, sir. in the apparatus that was

Q. Do you have a belief in that regard?

A. It would be on or before.

Q. Referring to Exhibits 23-160, 161, 162 and 163, those do those diagrams have any relation to the apparatus apparatus which was demonstrated to TelePrompter which I believe you identified as Exhibit 30?

A. Does this schematic relate to the specific equipment



that we demonstrated to TelePrompter?

Q. Yes, referring to Exhibit 23-118A again, which is the

A. I don't understand the words "relate to"; it, try-

Q. Well, to be more specific, do these diagrams show what that apparatus consisted of?

A. No, sir. Recall, sir. When you say that circuitry,

Q. Are these diagrams of some other apparatus? Is this

A. Yes, sir. Whatever on this page referring to this

Q. What apparatus?

A. What apparatus? At the time, as I recall, this

A. was referred to as the dv/dt.

Q. Was that apparatus constructed? A demonstration to

A. Were the circuits constructed? At the apparatus?

Q. Yes. At the apparatus up in a room where the

A. Yes, sir. A person was to take place and helped out with

Q. Were they incorporated in the apparatus that was demonstrated to RCA? One demonstration to

A. No, sir. Copies of TelePrompter?

Q. Referring to Exhibits 23-118, 119 and 120, do those show circuits which were included in the apparatus demonstrated to TelePrompter, Exhibit 30?

A. I do not know that Exhibit 23-118 is complete; however, 23-119 and 23-120 I believe to be the

equipment in reference.

Q. Referring to Exhibit 25-18A again, which is the October 24, 1968, schematic, was that circuitry incorporated in the RCA demonstration unit, Exhibit 35?

A. I do not recall, sir. When you say that circuitry, you mean the circuitry that I would have taken this data or whatever on this page referring to this schematic?

Q. Yes.

A. I do not recall.

Q. What did you have to do with the demonstration to TelePrompter other than construct the apparatus?

A. I set the apparatus up in a room where the demonstration was to take place and helped out with the demonstration of the games.

Q. Were there more than one demonstration to representatives of TelePrompter?

A. As I recall, there were two.

Q. Was the same demonstration given on each occasion?

A. As I recall, it was.

Q. Would you describe either of those demonstrations to the best of your recollection, noting specifically

what games were played? Mr. Harrison, I see you  
Q. are examining Exhibits 23-120, do you have any  
recollection apart from these circuit diagrams as  
to what games were demonstrated to TelePrompter?

A. It is very vague, sir. project during that period?

Q. Well, what is the recollection that you do have,

Q. even though vague? reason for the gap in your

A. I recall the two eyes on the screen. We could make  
the round spots into hollow spots as well. I

Q. Anything else? as not testified, I don't believe,

A. I just don't recall at this time. Exhibit 23-120  
indicates to me that we had a ping pong game of

Q. sorts. agree that there is a gap in your notes?

Q. Because there are three dot generators? number of

A. Three dot generators and a flipflop that would have

A. changed the direction of the ball. is a gap in

Q. Was there any wall bounce in that circuitry?

A. As I recall, there was not. ach a gap?

Q. I believe you stated that the circuitry of 119 and  
120 in Exhibit 23 were in the TelePrompter ther  
demonstration apparatus, Exhibit 30; was the games.

Q. circuitry of Exhibit 23-118 not in that apparatus?

A. At this time I believe it was. The schematic is

A. drawn differently and I didn't catch it before. 1968

Q. There appears to be a gap in your notes regarding the TV game apparatus from the latter part of

Q. January until November of 1968, do you recall not working on the TV game project during that period?

A. I do not recall that time period.

Q. Do you know of any reason for the gap in your notes? that an apparent problem with the ball not

bouncing off the bot MR. WILLIAMS: Well, I and

object. He has not testified, I don't believe, rec that there is a gap in his notes. The only

Q. testimony to that effect is yours, Mr. Welsh.

Q. Do you agree that there is a gap in your notes?

Q. That is, from January of '68 until November of

A. '68? bottom edge of the screen.

A. Yes, sir, as far as I can tell there is a gap in my notes: examination, Mr. Williams.

Q. Do you know why there is such a gap? We have no

A. I do not recall the events that would have happened to cause the gap in the notes or if some other events happened other than working on the TV games.

Q. Do you believe that you did not work on TV games during that period? followed with him?

A. I would say that I believe that I did not. At least not on a continuous basis. There may have been some spot work involved, I do not recall.

Q. Referring to Exhibit 23-158, there appears the statement, "No bounce from bottom wall," what did you mean by that?

A. Exhibit 23-158, the top half of the page indicates to me that an apparent problem with the ball not bouncing off the bottom wall was encountered and I apparently tried to make modifications to correct that problem.

Q. What was the bottom wall referred to?

A. The bottom of the screen.

Q. The bottom edge of the screen?

A. The bottom edge of the screen.

MR. WELSH: That completes my direct examination, Mr. Williams.

MR. WILLIAMS: We have no questions at this time.

MR. WELSH: I was wondering what the progress was with respect to Mr. Baer reading his transcripts and Mr. Rusch, is the same procedure being followed with him?

whereupon, the deponent, MR. WILLIAMS: I am not  
a hundred percent certain of how much of Mr. Rusch's  
we have. He said he would like to wait until we  
got the whole thing. We got some of his  
yesterday.

MR. WELSH: How about Mr. Baer?

MR. WILLIAMS: Mr. Baer, I am  
not sure.

MR. WELSH: I wonder if that  
can be checked into so we can make sure that we  
get it completed and signed and so forth?

MR. WILLIAMS: I will find  
out.

MR. WELSH: So we are adjourning  
these depositions until April 6.

MR. WILLIAMS: Yes, for  
the deposition of Mr. Etlinger, as I understand  
it.

MR. WELSH: Yes, and  
Mr. Seligman.

MR. WILLIAMS: Yes;  
Mr. Etlinger first and then Mr. Seligman.

(Whereupon, the deposition in the above-entitled  
matter was concluded at 3 p.m.)

*William Harrison*  
Deponent

THE STATE OF NEW HAMPSHIRE)  
COUNTY OF *Hillsborough*) SS.

Subscribed and sworn to before me this *13th*  
day of *May* 19 *76*.

*Marilyn E. Trapalis*  
~~Justice of the Peace and/or~~  
Notary Public

Marilyn E. Trapalis  
Notary Public  
My Commission Expires March 19, 1980